

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:	§	
Olivier Lavastre et al.	§	
Serial No.: 10/591,408	§	Group Art Unit: 1796
	§	
Confirmation No.: 3407	§	
	§	
Filed: July 19, 2007	§	Examiner: C. Caixia Lu
	§	
For: Ionic Liquids for Heterogenizing	§	Atty. Docket No.: F-916
Metallocene Catalysts	§	

Mail Stop Appeal Brief-Patents  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Honorable Commissioner:

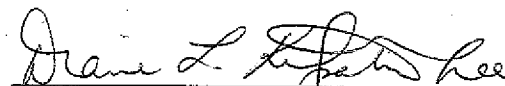
**RESPONSE TO NON-COMPLIANT APPEAL BRIEF DATED JANUARY 5, 2009**

In response to the Notification of Non-Compliant Appeal Brief dated January 5, 2009, having a shortened statutory period for response set to expire on February 5, 2009, Applicants respectfully submit the following:

1. Copy of the Notification of Non-Compliant Appeal Brief and
2. Replacement Sheets for the Summary of Claimed Subject Matter.

Respectfully submitted,

Date: 01/26/09



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**Summary of Claimed Subject Matter**

Independent claim 13 recites a method for the preparation of a heterogenised catalyst component that comprises (a) providing a halogenated precursor component characterized by the formula,  $X[CH_2]_nCH_3$ ; (b) reacting the halogenated precursor with an ionic liquid precursor IL to prepare an ionic liquid of the formula,  $IL^+X^-$ ; (c) mixing in a solvent the ionic liquid,  $IL^+X^-$ , with a metallocene catalyst component of the formula,  $R''(Cp)(Cp')M Q_2$ ; (d) heterogenising the ionic liquid/metallocene system of (c) by addition of an apolar solvent to induce the precipitation reaction; and (e) retrieving a metallocene catalyst component heterogenised by said ionic liquid. The Cp and Cp' are independently a substituted or unsubstituted cyclopentadienyl group, M is a metal from Group 4 of the Periodic Table, R'' is a structural bridge imparting stereorigidity between Cp and Cp' and Q is a halogen or an alkyl having from 1 to 12 carbon atoms. The amounts of ionic liquid and catalyst component are in a molar ratio, (ionic liquid)/(catalyst component), of from 5:1 to 1:5. *See*, specification, at least at page 2, lines 14-25 and page 3, lines 1-14.

Dependent claim 15 recites the further limitation that the ionic liquid and the catalyst component are in approximately equal stoichiometric amounts. *See*, specification, at least at page 3, lines 16-17.

Dependent claim 29 recites the preparation of an alpha olefin polymer that comprises (a) providing a heterogenized catalyst system that comprises a heterogenized catalyst component produced by the process of Independent claim 13 and an activating agent; (b) introducing the heterogenized catalyst system in an apolar solvent and an alpha olefin monomer into a polymerization reactor; (c) operating the reactor under

# REPLACEMENT SHEET

polymerization conditions; and (d) recovering the alpha olefin polymer product from the reactor. *See*, specification, at least at page 8, lines 14-20.

Dependent claim 31 recites the further limitation that the apolar solvent of Dependent claim 29 is n-heptane. *See*, specification, at least at page 9, lines 1-2.

The claimed invention provides for a method of preparing metallocene catalyst systems that are very active for the polymerization of olefins by using ionic liquids to heterogenise the metallocene catalyst component. *See*, specification, at least at page 1, lines 5-7.

<b>Notification of Non-Compliant Appeal Brief (37 CFR 41.37)</b>	<b>Application No.</b> 10/591,408	<b>Applicant(s)</b> LAVASTRE ET AL.	
	<b>Examiner</b> C. Lu	<b>Art Unit</b> 1796	

*--The MAILING DATE of this communication appears on the cover sheet with the correspondence address--*

The Appeal Brief filed on 04 December 2008 is defective for failure to comply with one or more provisions of 37 CFR 41.37.

To avoid dismissal of the appeal, applicant must file an amended brief or other appropriate correction (see MPEP 1205.03) within **ONE MONTH or THIRTY DAYS** from the mailing date of this Notification, whichever is longer.  
**EXTENSIONS OF THIS TIME PERIOD MAY BE GRANTED UNDER 37 CFR 1.136.**

1. ☐ The brief does not contain the items required under 37 CFR 41.37(c), or the items are not under the proper heading or in the proper order.
2. ☐ The brief does not contain a statement of the status of all claims, (e.g., rejected, allowed, withdrawn, objected to, canceled), or does not identify the appealed claims (37 CFR 41.37(c)(1)(iii)).
3. ☐ At least one amendment has been filed subsequent to the final rejection, and the brief does not contain a statement of the status of each such amendment (37 CFR 41.37(c)(1)(iv)).
4. ☒ (a) The brief does not contain a concise explanation of the subject matter defined in each of the independent claims involved in the appeal, referring to the specification by page and line number and to the drawings, if any, by reference characters; and/or (b) the brief fails to: (1) identify, for each independent claim involved in the appeal and for each dependent claim argued separately, every means plus function and step plus function under 35 U.S.C. 112, sixth paragraph, and/or (2) set forth the structure, material, or acts described in the specification as corresponding to each claimed function with reference to the specification by page and line number, and to the drawings, if any, by reference characters (37 CFR 41.37(c)(1)(v)).
5. ☐ The brief does not contain a concise statement of each ground of rejection presented for review (37 CFR 41.37(c)(1)(vi)).
6. ☐ The brief does not present an argument under a separate heading for each ground of rejection on appeal (37 CFR 41.37(c)(1)(vii)).
7. ☐ The brief does not contain a correct copy of the appealed claims as an appendix thereto (37 CFR 41.37(c)(1)(viii)).
8. ☐ The brief does not contain copies of the evidence submitted under 37 CFR 1.130, 1.131, or 1.132 or of any other evidence entered by the examiner **and relied upon by appellant in the appeal**, along with a statement setting forth where in the record that evidence was entered by the examiner, as an appendix thereto (37 CFR 41.37(c)(1)(ix)).
9. ☐ The brief does not contain copies of the decisions rendered by a court or the Board in the proceeding identified in the Related Appeals and Interferences section of the brief as an appendix thereto (37 CFR 41.37(c)(1)(x)).
10. ☒ Other (including any explanation in support of the above items):

c(5) The summary of claimed subject matter does not refer to claim (13) on appeal explicitly to the specification by page, and line numbers and to the drawings if any. (canceled claims should not be in this section). The entire brief is not required, only the section that was found defective..

/darlene brown/ darlene brown  
 5712721559 Patent Appeals Specialist